

IN THE CLAIMS:

The following is a complete listing of claims in this application.

9. (new) Arrangement for measuring the geometry or structure of an object by means of a coordinate measuring device comprising:

means for holding the object;

a light source, from which a first light beam originates impinging on a measuring point on the object;

an optical sensor for capturing and imaging the measuring point on the object by way of a second light beam, parallel to the first light beam impinging on the measuring point on the object; and

an optical system comprising at least one movable lens group containing a plurality of measuring lenses held in a common seat, each said lens group including a first lens in a path for the first light beam, and an second lens in line with the object in a path for the second light beam.

10. (new) Arrangement according to claim 9, wherein the path of the first light beam is optimized for a bright field or laser distance sensor beam, and the path of the second light beam is optimized for an image processing beam.

11. (new) Arrangement according to claim 9, wherein at least the first and second light beams meet on or on about one point of the object.

12. (new) Arrangement according to claim 9, additionally comprising means for reflecting the first light beam into the path of the second light beam.

13. (new) Arrangement according to claim 9, additionally comprising a lens adjacent the object in the paths of the first and second light beams.

14. (new) Arrangement according to claim 1, wherein the second light beam passes through a plurality of lenses forming

a zoom lens system comprising lenses which are adjustable in relation to each other for magnification and/or working distance change, each seat including lenses for at least two beam paths running in parallel to each other, the beam paths impinging on the object at the measuring point.

15. (new) Arrangement according to claim 14, wherein at least some of the lenses are optimized with respect to light passing through them.

16. (new) Arrangement according to claim 15, wherein the lenses are coated for optimization.

17. (new) Arrangement according to claim 9, wherein the lenses of the first and second paths have the same optical properties.

18. (new) Arrangement according to claim 17, wherein the lenses are optimized with an antireflective coating as a function of light color of the light beam passing therethrough.

19. (new) Arrangement according to claim 9, wherein the at least one lens of the second light path has high-quality optical properties, and the at least one lens of the first light path has lower quality optical properties with fundamentally the same nominal parameters.

20. (new) Arrangement according to claim 9, additionally comprising a mirror system for combining the first and second light beams in a common beam path adjacent the object.

21. (new) Arrangement according to claim 9, additionally comprising a movable aperture for realizing a telecentric optical system.

22. (new) Arrangement according to claim 21, wherein the aperture is arranged in an beam path, and can be moved into and out of the path as needed.

23. (new) Arrangement according to claim 22, wherein the aperture can be introduced in the beam path by opening or closing.